The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Canceled)

2. (Previously Presented) The method according to claim 6, wherein

the cell response of a gene-disrupted strain to the chemical is life or death of a cell, and/or proliferation ability, a consumed amount of oxygen, enzyme activity and/or a change in gene expression.

3. (Original) The method according to claim 2, wherein

the change in gene expression is a change in a RNA amount or a mRNA amount.

4. (Previously Presented) The method according to claim 2, wherein

the change in gene expression is measured by reporter gene assay.

5. (Canceled)

6. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein ~~a gene to be~~ the disrupted gene is classified into:

~~amino acid metabolism, nitrogen and sulfur metabolism, nucleotide metabolism, phosphate metabolism, C-compound and carbohydrate metabolism, lipid, fatty acid and isoprenoid metabolism, metabolism of vitamins, cofactors and prosthetic groups of metabolism;~~

~~DNA processing, cell cycle of cell cycle and DNA processing;~~

~~mRNA transcription, RNA transport of transcription;~~

~~ribosome biosynthesis, translation control of protein synthesis;~~

~~protein targeting, sorting, translocation, protein modification, assembly of protein complex, proteolysis of protein fate;~~

~~nuclear transport, vesicular transport (Golgi network etc), vacuolar transport, cellular import, cytoskeleton-dependent transport, other intracellular transport activities of intracellular transport and transport mechanism;~~

~~stress response, detoxification of cell rescue, defense and pathogemicity;~~

~~ionic homeostasis, cell sensitivity and response of intracellular environmental regulation/interaction;~~

~~cell growth/morphogenesis, cell differentiation of cell fate;~~

~~cell wall, cytoskeleton, nucleus, mitochondria of cell tissue control;~~

~~ion transporter, vitamin/cofactor transporter, transport mechanism, other transport promotion of transport promotion;~~

unclassified YBL056W; and/or

an unclassified protein selected from the group: YDR149C, YLR285W, YLR311C, YOR331C, YPR123C, YDR525W-A, YDR539W, YDR540C, YGL246C, YJL204C, YLR282C, YLR287C, YLR290C, YJL188C, YJL192C, YJL211C, YKL037W, YLR283W, YLR312C, YLR315W, YLR320W or YPL030W.

7. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is involved in a vacuole which is YKL080W, YLR447C, YHR06W, YPR036W, YHR039C-A or YHR026W.

8. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into amino acid metabolism, nitrogen and sulfur metabolism, nucleotide metabolism, phosphate metabolism, C-compound and carbohydrate metabolism, lipid, fatty acid and isoprenoid metabolism, metabolism of vitamins, cofactors and prosthetic groups of metabolism and the metabolism gene to be disrupted is YGL026C, YGR180C, YDR127W, YCR028C, YLR284C, YOR221C, YAL021C, YGL224C, YBL042C, YDR148C, YHL025W, YLR307W, YLR345W, YLR354C, YPL129W, or YPR060C.

9. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into DNA processing, cell cycle of cell cycle and DNA processing, and the cell cycle and DNA processing gene to be disrupted is YGR180C, YDR150W, YGL240W, YBL058W, YIL036W, YLR226W, YLR381W, YOR026W, YPL018W, YBL063W, YDR363W-A, YIR026C, YLR234W, YMR032W or YPL129W.

10. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into mRNA transcription, RNA transport of transcription, and the transcription gene to be disrupted is YGR006W, YIL036W, YKR082W, YLR226W, YML112W, YMR021C, YAL021C, YDR195W, YOL068C, YBR279W, YGL070C, YGL071W, YGL222C, YHL025W, YLR266C or YPL129W.

11. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into ribosome biosynthesis and translation control of protein synthesis, and the protein synthesis gene to be disrupted is YBL058W, YLR287C-A, YGR084C or YLR344W.

12. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into protein targeting, sorting, translocation, protein modification, assembly of protein complex, proteolysis of protein fate, and the protein fate gene to be disrupted is YKL080W, YLR447C, YGL240W, YGR105W, YGL206C, YKL119C, YDR414C, YHR060W, YLR292C, YLR306W, YGL227W or YGR270W.

13. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into nuclear transport, vesicular transport (Golgi network etc), vacuolar transport, cellular import, cytoskeleton-dependent transport and other intracellular transport activities of intracellular transport and transport mechanism, and the intracellular transport and transport mechanism gene to be disrupted is YPR036W, YDR027C, YHR039C, YKL080W, YLR447C, YGL206C, YKR082W, YLR292C or YBL063W.

14. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into stress response, detoxification of cell rescue, defense and pathogemicity, and the detoxification gene to be disrupted is YJR104C or YMR021C.

15. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into ionic homeostasis, cell sensitivity and response of intracellular environmental regulation/interaction, and the intracellular

environmental regulation/interaction gene to be disrupted is YPR036W, YHR039C-B, YKL080W, YLR447C, YGL071W or YIR026C.

16. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into cell growth/morphogenesis, cell differentiation of cell fate, and the cell fate gene to be disrupted is YDL151C, YBL058W, YKR082W, YDL151C, YOL068C, YDR363W-A, YHL025W, YIR026C, YLR307W, YMR032W or YPL129W.

17. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into cell wall, cytoskeleton, nucleus, mitochondria of cell tissue control, and the cell tissue control gene to be disrupted is YDR027C, YDR414C, YLR381W, YGR084C or YMR032W.

18. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen, wherein

the ~~gene to be~~ disrupted gene is classified into ion transporter, vitamin/cofactor transporter, transport mechanism, other transport promotion of transport promotion, and the transport promotion gene to be disrupted is YPR036W, YHR026W, YHR039C, YKL080W, YLR447C, YCR028C or YLR292C.

19. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen,

wherein

the ~~gene to be~~ disrupted gene is classified into unclassified **[[(98)]]**, and the unclassified **[[(98)]]** gene to be disrupted is YBL056W.

20. (Currently Amended) A method of assaying whether a chemical is present in a test specimen or not, comprising

culturing a first sample of a gene-disrupted strain of a yeast in the presence of the test specimen,

culturing a second sample of the gene-disrupted strain of the yeast in the absence of the test specimen; and

comparing cell response of the first sample with cell response of the second sample such that predetermined differences in cell response between the first sample and the second sample confirms presence of the chemical in the test specimen, wherein

the ~~gene to be~~ disrupted gene is classified into an unclassified protein **[[(99)]]**, and the unclassified protein **[[(99)]]** gene to be disrupted is YDR149C, YLR285W, YLR311C, YOR331C, YPR123C, YDR525W-A, YDR539W, YDR540C, YGL246C, YJL204C,

YLR282C, YLR287C, YLR290C, YJL188C, YJL192C, YJL211C, YKL037W, YLR283W, YLR312C, YLR315W, YLR320W or YPL030W.

21. (Canceled)

22. (Canceled)

23. (Previously Presented) Use of a gene-disrupted strain of a yeast for assaying whether a chemical is present in a test specimen or not by culturing a gene-disrupted strain of the yeast in the presence of the test specimen, and using cell response of the gene-disrupted strain in accordance with the methodology set forth in any one of claims 2 to 4 and 6 and 20.